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[54] **PROCESS AND DEVICE FOR LINEARIZING THE GAIN CHARACTRISTICS AND PHASE-FREQUENCY CHARACTERISTICS OF TRAVELING-WAVE TUBES AND TRANSISTOR AMPLIFIERS AT DIFFERENT POWER LEVELS**

[75] Inventors: **Rudolf Kohl**, Steinhöring; **Gerhard Eggers**, Bruckmühl, both of Germany

[73] Assignee: **Daimler-Benz Aerospace AG**, Ottobrun, Germany

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[30] **Foreign Application Priority Data**

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[52] **U.S. Cl.** ..... **330/149**; 330/124 R

[58] **Field of Search** ..... 330/43, 53, 124 R, 330/149; 333/14

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Primary Examiner—Steven Mottola

Attorney, Agent, or Firm—McGlew and Tuttle

[57] **ABSTRACT**

A process for linearizing the gain and phase-frequency characteristics of traveling-wave tubes and transistor amplifiers at different power levels is suggested, wherein the signal is divided between two branches and again united into the output signal, and in which the signal is divided between partial networks with compressing gain behavior, which are placed between two 3-dB couplers, and gain compression or gain expansion of the partial signals (E or K) is generated at two gates (KOMP, EXP) by the reflection behavior, which is different corresponding to the signal level, and the level of the nonlinear, gain-expanded partial signal (E) is raised by a linear amplifier (E2), and the additionally amplified, gain-expanded signal (E2) and the gain-compressed signal (K) are then united into the output signal with an adding network.

8 Claims, 2 Drawing Sheets